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=> d his

(FILE 'HOME' ENTERED AT 18:06:07 ON 04 JUN 2008)

FILE 'CAPLUS' ENTERED AT 18:07:52 ON 04 JUN 2008

=> s alpha chromium oxide

1767788 ALPHA

396562 CHROMIUM

1870232 OXIDE

L1 26 ALPHA CHROMIUM OXIDE  
(ALPHA(W)CHROMIUM(W)OXIDE)

=> s l1 and crystalline

82961 CRYSTALLINE

L2 2 L1 AND CRYSTALLINE

=> d 1-2 bib abs

L2 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1977:182159 CAPLUS

DN 86:182159

OREF 86:28487a,28490a

TI On the preparation of finely dispersed crystalline .

alpha.-chromium oxide ( $\alpha$ -Cr2O3)  
AU Proinova-Mekhandzhieva, R.; Mekhandzhiev, D.  
CS Inst. Chem. Technol., Sofia, Bulg.  
SO Doklady Bolgarskoi Akademii Nauk (1976), 29(12), 1787-90  
CODEN: DBANAD; ISSN: 0366-8681  
DT Journal  
LA English  
AB Samples of Cr(OH)3 with large sp. surface, obtained by precipitation from Cr(NO3)3

solns. with NH3 in presence of EtOH, were heated at 200, 300, 400, and 500° with continuous blowing of N, O, and H into the reaction space or in vacuum to produce finely dispersed crystalline  $\alpha$ -Cr2O3. Even at 500° the conversion of Cr(OH)3 into Cr2O3 is not complete. The products obtained were characterized by magnetic susceptibility and sp. surface area detns. and x-ray diffraction. The sp. surface areas of the products obtained at different temps. in the different atms. and in vacuum are given. The samples obtained at 400° in the presence of N had a large sp. surface (160 m2/g) and was antiferromagnetic, i.e., it had the crystal structure of  $\alpha$ -Cr2O3.

L2 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1963:39547 CAPLUS

DN 58:39547

OREF 58:6678e-f

TI Mechanism for the dehydrogenation of cyclohexane on crystalline  $\alpha$ -chromium oxide

AU Balandin, A. A.; Rozhdestvenskaya, I. D.

SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1961) 1955-60

CODEN: IASKA6; ISSN: 0002-3353

DT Journal

LA Unavailable

AB The dehydrogenation of cyclohexane was studied at 330-400° on a crystalline  $\alpha$ -Cr2O3 catalyst. The preparation of the catalyst, materials, and the method was described earlier (CA 56, 13594f). A comparison of the exptl. data with the theories for the mechanism of the reaction showed that the data agreed best with the planar sextet mechanism (CA 27,265; 51, 10208f). 34 references.

=> s 11 and nickel atoms

673165 NICKEL

559825 ATOMS

565 NICKEL ATOMS

(NICKEL(W)ATOMS)

L3 1 L1 AND NICKEL ATOMS

=> d bib abs

L3 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:182755 CAPLUS

DN 140:219737

TI Nickel-substituted and mixed nickel-and-cobalt-substituted chromium oxide compositions, their preparation, and their use as catalysts and catalyst precursors

IN Nappa, Mario J.; Rao, Velliyur Nott Mallikarjuna; Rosenfeld, H. David;

Subramoney, Shekhar; Subramanian, Munirpallam A.; Sievert, Allen C.

PA E.I. du Pont de Nemours and Company, USA

SO PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004018095	A1	20040304	WO 2003-US26327	20030821
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2003265592	A1	20040311	AU 2003-265592	20030821
	EP 155151	A1	20050713	EP 2003-793282	20030821
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
	CN 1678391	A	20051005	CN 2003-819939	20030821
	JP 2005536425	T	20051202	JP 2004-529844	20030821
	RU 2318595	C2	20080310	RU 2005-107802	20030821
	US 20050227865	A1	20051013	US 2005-523226	20050131
PRAI	US 2002-405221P	P	20020822		
	WO 2003-US26327	W	20030821		

OS CASREACT 140:219737

AB A crystalline  $\alpha$ -chromium oxide where 0.05-2 atom % of the chromium atoms in the  $\alpha$ -chromium oxide lattice are substituted by nickel atoms, and optionally, addnl. chromium atoms in the alpha-chromium oxide lattice are substituted by trivalent cobalt atoms (provided that the total amount of the nickel atoms and the trivalent cobalt atoms in the  $\alpha$ -chromium oxide lattice is no more than 6 atom%) is disclosed. Also disclosed is a chromium-containing catalyst composition comprising as a chromium-containing component the crystalline substituted  $\alpha$ -chromium oxide; and a method for preparing a composition comprising the crystalline substituted  $\alpha$ -chromium oxide. The method comprises (a) co-precipitating a solid by adding ammonium hydroxide to an aqueous solution of a soluble divalent nickel salt, a soluble trivalent chromium salt, and optionally, a soluble divalent or trivalent cobalt salt, that contains at least three moles of nitrate per mol of chromium in the solution, has a nickel concentration 0.05-2 mol% of the total of nickel, chromium, and cobalt in the solution, and has a combined concentration of nickel and cobalt of no more than 6 mol% of the total of nickel, chromium, and cobalt in the solution; and after at least 3 mol of ammonium per mol of chromium has been added to the solution; (b) collecting the co-precipitated solid formed in (a); (c) drying the collected solid; and (d) calcining the dried solid. Also disclosed is a chromium-containing catalyst composition comprising a chromium-containing component prepared by treating said crystalline substituted  $\alpha$ -chromium oxide with a fluorinating agent; and a process for changing the fluorine distribution (i.e., content and/or arrangement) in a hydrocarbon or halogenated hydrocarbon in the presence of a catalyst. The process involves using as the catalyst a composition comprising the crystalline substituted alpha-chromium oxide and/or the treated substituted  $\alpha$ -chromium oxide.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

## ALL CITATIONS AVAILABLE IN THE RE FORMAT

=&gt; s chromium oxide and nickel atoms

396562 CHROMIUM  
1870232 OXIDE  
37001 CHROMIUM OXIDE  
(CHROMIUM(W)OXIDE)  
673165 NICKEL  
559825 ATOMS  
565 NICKEL ATOMS  
(NICKEL(W)ATOMS)

L4 2 CHROMIUM OXIDE AND NICKEL ATOMS

=&gt; d 1-2 bib abs

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:1256306 CAPLUS

TI Metal dusting of nickel and its alloys

AU Zhang, Jianqiang; Young, David J.

CS School of Materials Science and Engineering, University of New South Wales, Sydney, NSW, 2052, Australia

SO ECS Transactions (2007), 3(14, High Temperature Corrosion and Materials Chemistry 6), 27-41

CODEN: ECSTF8

PB Electrochemical Society

DT Journal; (computer optical disk)

LA English

AB Pure nickel, Ni-Cu binary alloys, Types 304 and 310 stainless steels and Alloy 800H were all reacted with carbon-supersatd. CO/H<sub>2</sub>/H<sub>2</sub>O at 680°. In general, the reaction led to growth of an external deposit, together with graphitization at both external surfaces and interior grain boundaries. By independently controlling the supersatd. carbon activity and pCO, the reaction of pure nickel was determined by parallel, independent reaction paths, and the carbon uptake rate was well described by Rate = k<sub>1</sub>pCOpH<sub>2</sub> + k<sub>2</sub>p<sub>2</sub>CO - k<sub>3</sub>p<sub>2</sub>H<sub>2</sub> leading to a maximum rate at about pCO .apprx. 0.7 atmospheric The surface graphite layer thickened, growing

into the metal, while graphite particle clusters and nanofilaments formed on the surface. Each particle cluster and filament contained metal nanoparticles. Addition of copper to the nickel suppressed graphite particle cluster formation, thereby decreasing greatly the overall dusting rate. This phenomenon is interpreted in terms of graphite nucleation and copper interference with nucleation sites involving multiple nickel atoms. Reaction conditions used were such as to stabilize Fe<sub>3</sub>C and chromium carbides, Cr<sub>2</sub>O<sub>3</sub> and spinel, but not iron or nickel oxides. Under these conditions, all three alloys, 304SS, 310SS and 800H, dusted, with 304SS experiencing the greatest metal wastage. Addns. of copper had no effect on the dusting rate of 304SS, but greatly decreased the dusting of 310SS and 800H.

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:182755 CAPLUS

DN 140:219737

TI Nickel-substituted and mixed nickel-and-cobalt-substituted chromium oxide compositions, their preparation, and their use as catalysts and catalyst precursors

IN Nappa, Mario J.; Rao, Velliyur Nott Mallikarjuna; Rosenfeld, H. David; Subramoney, Shekhar; Subramanian, Munirpallam A.; Sievert, Allen C.

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SO PCT Int. Appl., 55 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004018095	A1	20040304	WO 2003-US26327	20030821
	W:				
	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW:				
	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2003265592	A1	20040311	AU 2003-265592	20030821
	EP 1551551	A1	20050713	EP 2003-793282	20030821
	R:				
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	JP 2005536425	T	20051202	JP 2004-529844	20030821
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	US 20050227865	A1	20051013	US 2005-523226	20050131
PRAI	US 2002-405221P	P	20020822		
	WO 2003-US26327	W	20030821		

OS CASREACT 140:219737

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oxide.  
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ALL CITATIONS AVAILABLE IN THE RE FORMAT

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